

Title (en)
THREE-BLADED DRILL WITH CUTTING FLUID SUPPLY HOLE

Title (de)
BOHRER MIT DREI KLINGEN UND SCHNEIDFLÜSSIGKEITSVERSORGUNGSLOCH

Title (fr)
FORET À TROIS ARÊTES AVEC TROU D'ALIMENTATION EN FLUIDE DE COUPE

Publication
EP 2979794 A1 20160203 (EN)

Application
EP 13879777 A 20130326

Priority
JP 2013058794 W 20130326

Abstract (en)
Provided is a three-bladed drill that obtains, without decreasing drill rigidity, a sufficient supply of cutting fluid through a cutting fluid supply hole even without increasing the cutting fluid supply pressure. A cutting fluid supply hole (22) that is provided in a groove (16) has a fan shape cross-section enclosed by: a front inner wall face (FH) that is located in the radial direction on the side in the forward direction of rotation (RT) of a three-bladed drill (10); a back inner wall face (RH) that faces, in the circumferential direction, the front inner wall face (FH) and that is located in the radial direction on the side in the reverse direction of rotation (RT) of the three-bladed drill (10); an outer circumferential inner wall face (OH) comprising a partial face of a cylinder centered around the center line (C) of the three-bladed drill (10); and an inner circumferential inner wall face (IH) that faces, in the radial direction, the outer circumferential inner wall face (OH), and that comprises a partial face of a cylinder centered around the center line (C) of the three-bladed drill (10) with a radius of curvature (R2) that is smaller than the radius of curvature (R1) of the cylinder for the outer circumferential inner wall face (OH). Therefore, the core diameter can be ensured and the speed of the cutting fluid in the cutting fluid supply hole (22) can be increased even when the supply pressure of the cutting fluid is not increased, thereby increasing the supply of the cutting fluid.

IPC 8 full level
B23B 51/06 (2006.01)

CPC (source: CN EP US)
B23B 51/02 (2013.01 - US); **B23B 51/06** (2013.01 - CN EP US); **B23B 2250/12** (2013.01 - US); **B23B 2251/202** (2013.01 - CN EP US); **Y10T 408/455** (2015.01 - EP US)

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
EP 2979794 A1 20160203; **EP 2979794 A4 20161116**; CN 105050758 A 20151111; JP 5951113 B2 20160713; JP WO2014155527 A1 20170216; KR 101740847 B1 20170526; KR 20150122246 A 20151030; US 2016031016 A1 20160204; US 9623490 B2 20170418; WO 2014155527 A1 20141002

DOCDB simple family (application)
EP 13879777 A 20130326; CN 201380075081 A 20130326; JP 2013058794 W 20130326; JP 2015507743 A 20130326; KR 20157027518 A 20130326; US 201314775462 A 20130326